## REMARKS

Claims 1-36 are pending in the present application. Claims 1-36 have been rejected. Claim 1 has been amended. No new matter has been introduced by this amendment. Reconsideration and allowance is respectfully requested in view of the amendments and the following remarks.

Claims 1-36 have been rejected under 35 U.S.C. § 102(b), as being anticipated by Lemelson (4,960,643). Applicant respectfully disagrees with the Examiner's assertions.

To anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1007 (1988). Moreover, the single source must disclose all of the claimed elements "arranged as in the claim." *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).

Lemelson teaches composite materials that are in the form of particles, such as bits and short filaments, and combinations of such particles with matrix materials forming high strength, wear and corrosion resistant materials and may be shaped to define cutting tools, dies, mold components, electrodes, bearing components, finishing tools and the like. Structures include substrates and synthetic diamond particles encapsulated therein or bonded thereto have superior grinding, cutting and finishing characteristics. Particles are in the form of microbits, spheroids, single crystals, short narrow filaments and metal whiskers coated with synthetic diamond formed with a core of graphite, metal, metal compounds, metal alloys, ceramic, cermet, glass and composites thereof. Filaments and bits are coated with a lubricating film of wear resistant metal. (Abstract)

In order to be prior art under 35 U.S.C. § 102, the cited prior art reference must teach one of ordinary skill in the art to make the claimed invention. A prior art reference may yet be held not to legally anticipate the claimed subject matter if it is found not to be sufficiently enabling, in other words, if it does not place the subject matter of the claims within the possession of the public. *In re Wilder*, 429 F.2d 447, 166 USPQ 545, 548

(C.C.P.A. 1970). Thus, a prior art reference, including a printed publication, must be enabling as required for U.S. patents under 35 U.S.C. § 112, first paragraph. *Paperless Accounting, Inc. v. Bay Area Rapid Transit Sys.*, 804 F.2d 659, 665, 231 USPQ 649, 653 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 933 (1987). Additionally, if the reference is inoperative with respect to the claimed invention, then the reference does not teach the invention and is not useable prior art. *In re Shepherd*, 80 USPQ at 497. The Lemelson patent is not enabling, and is therefore not acceptable prior art under 35 U.S.C. § 102 and 35 U.S.C. § 112, first paragraph.

The Lemelson patent teaches the deposition of diamond within open-cell or closed-cell materials. However, the Lemelson patent is not enabling as of the filing date of March 31, 1987. The diamond deposition process as disclosed by Lemelson is not operable. In the declaration of Dr. J. Michael Pinneo submitted on August 29, 2002, one skilled in the art, stating that he has reviewed the Lemelson patent and asserts that the Lemelson patent is not enabling for the deposition of diamond within open- or closed-cell materials. The following presents a summary of that declaration:

> "Lemelson's teaching does not disclose or imply operable means of diamond deposition that could yield his claimed result. A person skilled in the art following Lemelson's teaching would direct microwave energy through the substrate material, as taught in Column 8, lines 42-45, inclusive. This would produce either of two results depending on the electrical properties of the substrate, neither of which would include the growth of diamond."
>
> "In the first case, for substrates with substantial electrical conductivity, microwave radiation would simply reflect from the substrate material, without the production of a plasma that is a requirement for microwave-assisted diamond deposition. No diamond deposition would occur, either within the interior voids or on the surface."
>
> "In the second case, for substrates with little or no electrical conductivity, microwaves would traverse the material, heating it through a combination of dielectric losses and plasma heating, depending on the nature of the material and

size and disposition of internal void volumes. In this event, the material temperature would rapidly exceed the temperature at which diamond deposition is possible. Under these conditions, only graphite would be deposited, and then only if the substrate material could withstand the extreme temperature that would result."

The only evidence of record in this application concerning what persons of ordinary skill in the art would think that Lemelson discloses or does not disclose is in the Declaration of Dr. Pinneo, a person of ordinary skill in the art. According to Dr. Pinneo, such skilled persons would not only find that Lemelson's teaching does not disclose or imply operable means of diamond deposition that could yield his claimed result. In view of this Declaration, the Examiner's assertion that Lemelson discloses otherwise is not evidence and may be given no weight unless the Examiner submits a declaration to support his assertion.

In the Final Office Action, the Examiner asserted that the Affidavit submitted merely included opinion by the inventor. Affidavits, such as the one by Dr. Pinneo, provided by experts are relevant evidence and must be accorded fair weight. The affidavit submitted in this case is evidence of record bearing on the content of the prior art and the level of ordinary skill. (See MPEP 716 in general; *In re Piasecki*, 223 USPQ 785 (Fed. Cir. 1984); and *In re Oelrich*, 198 USPQ 210 (CCPA 1978)).

In view of Dr. Pinneo's declaration, the Lemelson patent is not enabling under 35 U.S.C. § 112, first paragraph and 35 U.S.C. § 102, and is therefore, not acceptable prior art for use against the present application.

Claims 1-36 have been rejected under 35 U.S.C. § 102(b), as being anticipated by Pinneo (5,545,030). Applicant respectfully disagrees with the Examiner's assertions.

First, Applicant believes that this Final Rejection if premature. MPEP 706.07(c). This is the first time the Pinneo reference has been cited in this case, and therefore, the final rejection of these claims, based on the Pinneo reference, is premature.

As stated above, to anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1007 (1988). Moreover, the single source must disclose all of the claimed elements "arranged as in the claim." *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).

Pinneo teaches porous and non-porous compositions including diamond particles, non-diamond particles, or mixtures of particles consolidated with polycrystalline diamond. The composite compositions of Pinneo may be formed by a process which includes the steps of preforming the particles into a preform having a desired shape, and consolidating the preform with polycrystalline diamond. The polycrystalline diamond is preferably formed using CVD techniques including application of sufficient microwave energy to maintain the preform at a temperature of between about 670°C and 850°C. The preform may be rotated during a portion of the deposition process. (Abstract)

Pinneo teaches a new class of diamond composite materials in which particulates consisting in part or in whole of diamond are consolidated, or "glued" together by deposition of a matrix of polycrystalline diamond material or other material using chemical vapor deposition (CVD) techniques. Both porous and non-porous compositions include non-diamond solid particles consolidated with polycrystalline diamond. The solid particles may include any material that is compatible with polycrystalline diamond deposition techniques. Either nickel or iron may be utilized but these particles must be coated with a thin layer of metal, such as molybdenum, or ceramic, such as silicon carbide, in order to allow for the diamond to be deposited on the material. (Col. 2, lines 14-39; Col. 5, lines 10-24) Pinneo teaches using non-diamond <u>particles</u> that is coated with a matrix of polycrystalline diamond material using CVD processes.

In contrast, the present application claims "a ceramic framework material substrate", not particles. As is illustrated in Figure 1A, a view of an uncoated substrate framework material is presented. The Examiner has failed to make a *prima facie* case of obviousness.

As stated above, independent Claims 1, 8, 23, and 32 are not anticipated by the Pinneo reference, therefore dependent Claims 2-7, 9-22, 24-31, and 33-36 are also not anticipated by the Pinneo reference.

Reconsideration and withdrawal of this rejection is respectfully requested.

In view of the foregoing, consideration and an early allowance of this application are earnestly solicited.

Respectfully submitted,
SIERRA PATENT GROUP, LTD.

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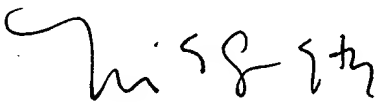

Nicole E. Coppes-Gathy
Reg. No: 46,640

Sierra Patent Group, Ltd.
P.O. Box 6149
Stateline, NV 89449
Tel. (775) 586-9500
FAX (775) 586-9550

**VERSION WITH MARKED UP CHANGES**

In the Claims:

Please amend Claim 1 as follows:

1. (Twice Amended) An article comprising diamond deposited on a ceramic framework material substrate, said [article] framework material substrate at least partially filled with a filler material.